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STUDIES ON BORMANS'S (= DUBRONY) SOME MATERIAL OF DERMAPTERA (INSECTA)

INTRODUCTION

Altogether 16 species, including two determined up to generic level since represented by females only, are treated in the present study. Although 13 species are based exclusively on the material previously determined by Bormans, remaining three are based upon the material determined by others barring one which partly deals with Bormans materials as well.

Of the material received from the Museo Civico di Storia Naturale 'Giacomo Doria', Genova, 'Types' of five species viz., *Spongophora nitidipennis* Bormans; *Spongophora lutea* Bormans; *Platylabia gestroi* Dubrony; *Forficula borneensis* Dubrony (abdomen missing); *Chelisoches glaucopterus* Bormans and *Opisthocosmia* ? *dubia* Bormans besides other known ones are included. In addition 'Types' of two species viz., *Spongophora lutea* Bormans and *Forficula cingalensis* Dohrn belonging to Naturhistorisches Museum, Wien, Austria and Museum für Naturkunde, Berlin, DDR, respectively are treated. However, some material referred under both the species comes from the Zoological Survey of India. And the interpretation of *Spongovostox escheri* Borelli, is on the specimens from the same source exclusively.

It is observed that *Spongophora nitidipennis* and *S. lutea* are conspecific together with two other species, *Spongovostox aborum* Burr and *S. wuermalii* Brindle.

The material referred to by Bormans under *Spongophora nitidipennis* subsequent to the original description of the species is found to contain three distinct species viz., *Apovostox jupiter* (Burr), hitherto considered as synonym of this species, is reinstated; *Chaetospania feuerbornni* Günther, a synonym of *Chaetospania borneensis*, is resurrected

and *Apovostox* sp. since represented by a ♀, specific identification not possible.

As a result of re-examination of 'Types' (Syntypes) of *Platylabia gestroi* Bormans, the species is considered as valid. The 2 ♀♀ referred to it by Bormans (1888) are placed under *Chaetospania*. The two examples det. by Bormans as *Chelisoches ritsemae* Bormans, are recognized as *Proreus weisi* Burr.

A key to various subfamilies of Labiidae is provided, utilising for the first time the relative length of hind tarsal segments, especially the shape of 2nd one together with other characters. Two new subfamilies viz., Homotaginae and Irdexinae are erected with *Homotages* Burr and *Irdex* Burr as the type genera, respectively.

The genus *Irdex* is redefined here on the basis of its type, *Spongophora nitidipennis* Bormans. Besides *Forficula cingalensis* Dohrn and *Spongovostox escheri* Borelli are also included. It may be mentioned here that *Spongovostox carli* Borelli is considered as synonym of the former.

Brief notes alongwith illustrations for most of the species are given.

Carcinophoridae

Platylabiinae

Platylabia major Dohrn (Fig. 1-3)

Platylabia major Dohrn, 1867, *Stettin. ent. Ztg.*, 28: 347 (♀; Celebes).

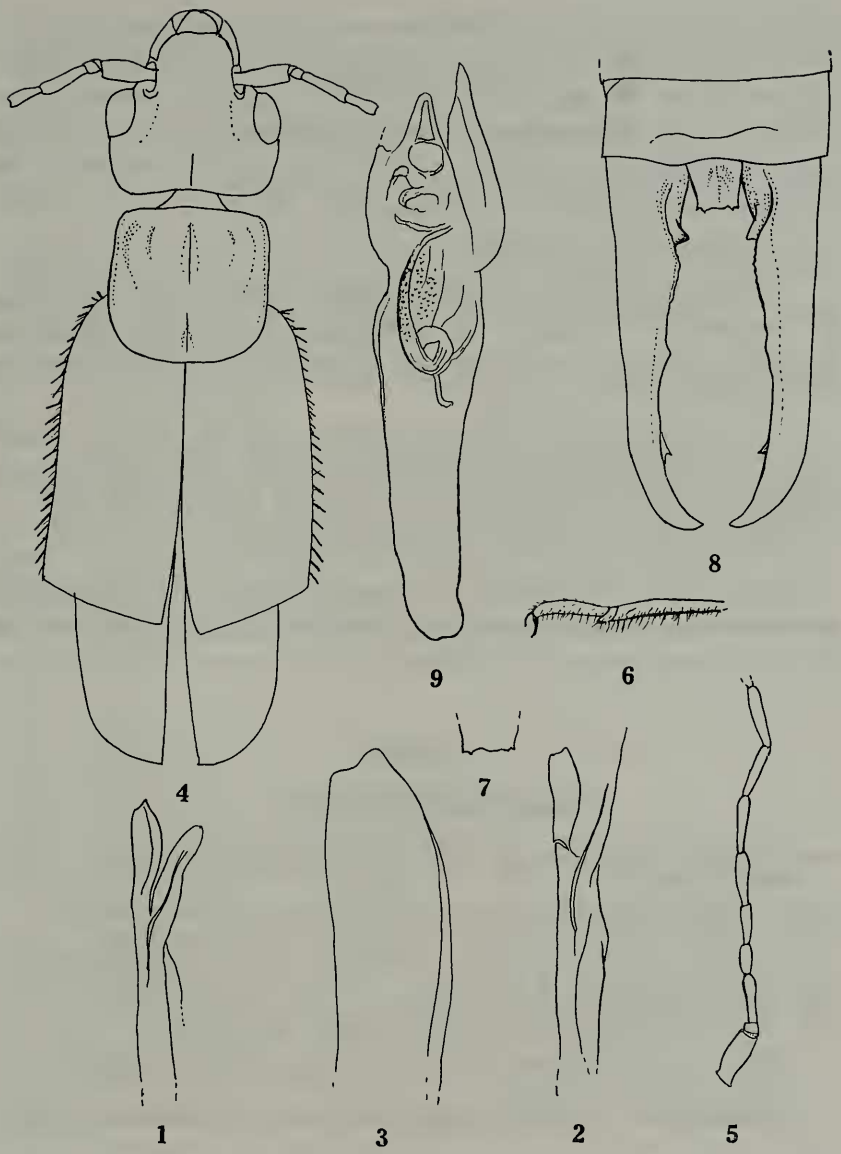
Material examined. Burma: Carin Chebà, 900-1100 m, 3 ♂♂ (1 ♂ with genitalia mounted between two coverslips and pinned with the specimen), 1 ♀, V-XII.1888, all L. Fea coll.; Java (= Giava), Tcibodas, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), Ott. 1874, O. Beccari; all determined by Bormans as *Platylabia major* Dohrn.

The above material is listed by Dubrony (1879) and Bormans (1894).

Remarks. On the basis of information provided by Srivastava (1981) the above material is referrable under the species.

In having the distal lobes with fine teeth and thin tubular virga it is can be easily separated from the other two known species of the genus.

This species appears to be widely distributed in the Oriental Region but so far it is not reported from India.



Figs. 1-9. - *Platylabia major* Dohrn ♂; 1. A portion of genitalia from the specimen from Java; 2. A portion of genitalia from the specimen from Sumatra; 3. Paramere enlarged from the specimen from Sumatra - *Irdex nitidipennis* (Bormans) ♂: 4. Anterior half of the body; 5. A few antennal segments; 6. Hind tarsi; 7. Apical portion of pygidium, enlarged; 8. Ultimate tergite and forceps; 9. Genitalia, left paramere partially damaged.
(Figs. 4-9 are from the « Type ♂ » of *Spongophora nitidipennis* Bormans).

Labiduridae

ALLOSTETHINAE

Allostethus indicum (Burmeister)

Forficula indica Burmeister, 1838, *Handb. Ent.*, 2: 751 (Java).
Psalis magnificus Rehn, 1905, *Proc. U.S. natn. Mus.*, 29: 504.

Material examined

2) 1 ♀ labelled as: i) Borneo Sarawak, 1865-66, Coll. G. Doria; ii) *Labidura indica* Hagenb., ♂, handwritten but not by Bormans; iii) Museo Civico di Genova; genitalia mounted between two coverslips and pinned with the specimen.

2) 1 ♀ labelled as: i) Borneo Sarawak, 1865-66, Coll. G. Doria; ii) *Labidura indica* (Hagenb.), ♀. Dohrn Ent. Stett. Zeit. 1863, p. 320, handwritten but not by Bormans; iii) Museo Civico di Genova.

This material is recorded in Dubrony (1879).

Remarks. On the basis of male genitalia and penultimate sternite having a median raised stripe bordered laterally with a tuft of hairs the above material is referrable to this species.

NALINAE

Nala lividipes (Dufour)

Forficula pallipes Dufour, 1820, *Ann. Gener. Sci. Phy. Bruxelles*, 4: 316 (♂, ♀; Lower Catalonia, Spain).
Forficula lividipes Dufour; 1828, *Ann. Sci. Nat.*, 13: 340 (new name proposed).

Material examined. Birmania, Bhamó, 1 ♂, 1885; Katha, 1 ♂, 11-6-85; Rangoon, 1 ♂, v.1885; 1 ♂, 1 ♀, XII.1888; Teinzó, 1 ♂, 1886, Fea; *Labidura dufouri* Desmar., teste De Bormans.

This is part of the material referred to by Bormans (1888).

Remarks. A very common and widely distributed species.

Labiidae

Burr (1911) gave a key to subfamilies which was based on the characters of elytra, antennal segments and relative length of eye and post-ocular area besides other minor characters. His keys were in use

with slight additions by POPHAM and BRINDLE (1967, 1967a) and STEINMANN (1976). It was customery to divide various subfamilies into two major groups i.e. elytra with a sharp ridge along the costal margin or without it. It is evident that Pericominae do not fit in any of the above said divisions since the costal margin of elytra is marked with a row of small tubercles and from each one arises a thick setae.

In the present work shape of hind tarsi, especially the second tarsal segment and relative length of all the three segments in combination with other characters, are utilised for the first time in formulating a key for the discrimination of subfamilies.

The arrangement of genera under Labiinae and Spongiphorinae is after BRINDLE (1971).

Two new subfamilies viz., Homotaginae and Irdexinae are erected. Of these the former is proposed for the genus *Homotages* Burr, which possesses bare body and the 2nd tarsal segment slightly longer than broad. The Forficuloid appearence copuled with an elongation of second tarsal segment perhaps represents an evolutionary transitional stage between Labiidae on one hand and Chelisochidae and Forficulidae on the other.

KEY TO THE SUBFAMILIES OF LABIIDAE

1 (6). Second tarsal segment longer than broad

2 (3). Elytra with a sharp ridge along the costal margin; whole body covered with short, stiff hairs; femora incrassate, tibiae deplanate and sulcate above in apical half only .. Ramamurthinae Steinmann, 1975 (= Physogastrinae Ramamurthi):
genus: *Ramamurthia* Steinmann, 1975 (= *Physogaster* Ramamurthi, 1961)

3 (2). Elytra without any sharp ridge along the costal margin; body may be smooth or pubescent; femora and tibiae not as above

4 (5). Body pubescent; elytra granular, along the costal margin with row of small tubercle, each bearing a thick seta; tarsi long and slender, 1st segment in length five times or more than its width ..... Pericominae Burr, 1911:
genus: *Pericomus* Burr, 1911

5 (4). Body not pubescent; elytra smooth, costal margin without tubercles or thick hairs; tarsi comparatively shorter, 1st segment in length three or four times of its width .... Homotaginae subfam. n.: genus: *Homotages* Burr, 1909

6 (1). Second tarsal segment broader than long

7 (8). Hind tarsi comparatively longer and slender, 1st segment five times longer than its width; elytra smooth, occasionally costal margin with a row of small tubercles each with a thick seta ..... Irdexinae subfam. n.: genus: *Irdex* Burr, 1911

8 (7). Hind tarsi comparatively shorter and thick, 1st segment three to four times longer than its width

9 (14). Elytra with a sharp ridge along the costal margin

10 (11). Antennal segments conical, each gently expanded apically and narrowed basally ..... Nesogastrinae Verhoeff, 1902: genus: *Nesogaster* Verhoeff, 1902

11 (10). Antennal segments cylindrical

12 (13). Antennae 16 to 20 segmented (African species) .... Vandicinae Burr, 1911: genus: *Vandex* Burr, 1911

13 (12). Antennae 12-15 segmented (American species) .... Strongylopsalinae Burr, 1911: genus: *Strongylopsalis* Burr, 1900

14 (9). Elytra without any ridge along the costal margin

15 (16). Body strongly depressed or flattened, head flat, dorsal surface not convex ..... Sparattinae Burr, 1911: genera: *Auchenomus* Karsch, 1886; *Parasparatta* Burr, 1911; *Sparatta* Serville, 1839; *Metasparatta* Borelli, 1912; *Mecomera* Serville, 1839

16 (15). Body not strongly depressed or flattened; head with dorsal surface convex (except in *Chaetospania*)

17 (18). Tarsal claw with an arolium ..... Geracinae Brindle, 1971: genera: *Geracides* Brindle, 1973; *Eugerax* Hebard, 1917; *Gerax* Hebard, 1917; *Cosmogerax* Hebard, 1933; *Barygerax* Hebard, 1917; *Nesolabia* Hincks, 1957; *Pseudovostox* Borelli, 1926

18 (17). Tarsal claw without an arolium

19 (20). Hind margin of ultimate tergite strongly emarginate; forceps almost as long as the width of ultimate tergite .... Isopyginae Borelli, 1931: genus: *Isopyge* Borelli, 1931

20 (19). Hind margin of ultimate tergite feebly sinuate; forceps distinctly longer than the width of the ultimate tergite

21 (22). Third antennal segment shorter than the fifth or only slightly so; eyes longer than the postocular length in *Apovostox*; elytra generally pubescent, occasionally punctate ..... Labiinae Burr, 1911: genera: *Purex* Burr, 1911; *Labia* Leach, 1815; *Apovostox* Hebard; 1927 (= *Argusina* Hebard, 1927) *Chaetospania* Karsch, 1886; *Sphingolabis* Bormans, 1883; *Afrolabia* Hincks, 1949; *Chaetolabia* Brindle 1972

22 (21). Third antennal segment longer than the fifth; eyes generally longer than the postocular length; elytra generally smooth, glabrous or only faintly pubescent .... Spongiphorinae Burr, 1911: genera: *Spongiphora* Serville, 1831; *Vostox* Burr, 1911; *Prosparatta* Burr, 1911; *Spongovostox* Burr, 1911; *Marava* Burr, 1911; *Formicilabia* Rehn and Hebard, 1917

IRDEXINAE, subfamily nov.

Diagnostic characters. Eyes small or prominent. Elytra smooth, costal margin with a row of small rounded tubercles, each bearing a thick seta. Wings present or abbreviated. Legs long, slender, 1st tarsal segments 1/5 as wide as long; 2nd segment broader than long and 3rd slightly shorter than 1st. Ultimate tergite transverse, posteriorly depressed in middle with its dorsal border sharp. Pygidium subvertical, posterior margin provided with minute tubercles at postero-lateral angles and in the middle. Forceps remote at base, straight, gently undulate, internal margin with several minute teeth.

Type genus: *Irdex* Burr, 1911.

Remarks. Burr (1911) erected the genus *Irdex* with *Spongophora nitidipennis* Bormans (= *Chaetospania jupiter* (Burr)) as the type.

It appears, although the *Spongophora nitidipennis* was designated as the type, generic diagnosis was based on *Chaetospania jupiter*. As a result of reexamination of the type (Holotype) ♂ of the former species it becomes clear that latter one is not conspecific.

In the light of above, the genus *Irdex* Burr, is redefined. Besides it is also now resolved that *Labia pygidiata* Dubrony, 1879 and *Spongophora nitidipennis* Bormans, 1894, type species of the genera *Apovostox* Hebard and *Irdex* Burr, respectively, are not congeneric. For this reason former is resurrected and *Chaetospania jupiter* Burr is transferred to it.

Genus **Irdex** Burr

Irdex Burr, 1911, *Dt. ent. natn. biblthk.*, 1911: 59.

The characters for the subfamily hold good for the genus as well.

Type species: *Spongophora nitidipennis* Bormans 1894. Besides *Forficula cingalensis* Dohrn and *Spongovostox escheri* Borelli are also included under this genus.

All other species hitherto referred under this genus are transferred under *Apovostox* Hebard.

Key to species (based on ♀♀)

1 (2). Pygidium obtuse, small; forceps contiguous, depressed, with a minute tubercle at middle internally, occasionally forming a faint ridge ..... *I. nitidipennis* (Burr)

2 (1). Pygidium trapezoidal, narrowed posteriorly, subvertical; forceps remote, undulate

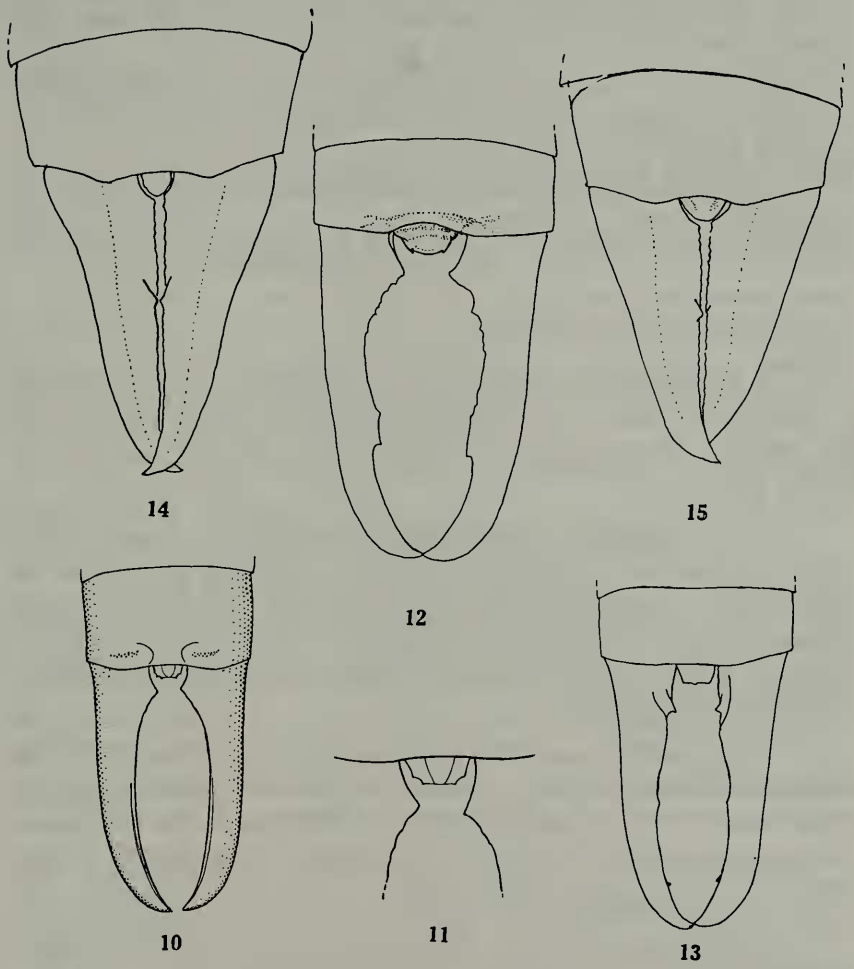
3 (4). Pygidium with hind margin straight; forceps at base internally with a sharp ventral and dorsal tooth, followed by a convexity at apical 1/3 ..... *I. cingalensis* (Dohrn)

4 (3). Pygidium with posterior margin convex; forceps internally at base with a sharp ventral and dorsal tooth, followed dorsally by another tooth at basal 1/4 and a convexity at apical 1/4 ..... *I. escheri* (Borelli)

Irdex nitidipennis (Bormans) (Figs. 4-15)

Spongophora nitidipennis Bormans, 1894, *Ann. Mus. civ. St. nat. Genova*, (2) 14: 382 (1 ♂; Burma, Carin Chebà - Type ♂ at Museo Civico di Storia Naturale « Giacomo Doria », Genova Italy).

Spongiphora nitidipennis; Bormans and Krauss, 1900, *Das Tierreich*, 11: 59; Bormans, 1900, *Ann. Mus. civ. St. nat. Genova* (2) 20: 454; Kirby, 1904 *Syn. Cat. Orth.*, 1:22.



Figs. 10-15. - *Irdex nitidipennis* (Bormans) ♂: 10,12,13. Ultimate tergite and forceps; 11. Pygidium, enlarged from fig. 10. - ♀: 14-15. Ultimate tergite and forceps. (Figs. 10-13 are from the « Syntypes ♂ », of *Spongophora lutea* Bormans.)

Spongophora lutea Bormans, 1894, *Ann. Mus. civ. St. nat. Genova*, (2) 14: 383 (7 ♂♂, 2 ♀♀; Burma, Carin Ghecù, Carin Chebà, Carin Asciuii Chebà, Palon (Pegù) - Syntypes ♂, ♀ stated to present in the Museo Civico di Storia Naturale « Giacomo Doria », Genova, Italy; Naturhistorisches Museum Wien, Vienna, Austria and Syntype 1 ♀ at Zoologisches Staatsinstitut und Zoologisches Museum, Hamburg, FRG. Syn. n.

Spongiphora lutea; Bormans and Krauss, 1900, *Das Tierreich*, 11: 60; Kirby, 1904, *Syn. Cat. Orth.*, 1: 30; Burr, 1910, *Fauna Brit. India, Dermaptera*: 112.

Labia lutea; Burr, 1911, *Genera Insect.*, 122: 56; Burr, 1912, *Annln naturh. Mus. Wien*, 26: 88; Hebard, 1927, *Proc. Acad. nat. Sci. Philad.*, 79: 42; Hincks, 1947, *Ark. Zool.*, 39A (1): 23; Bey-Bienko, 1959, *Ent. Obozr.*, 38: 611; Kapoor, 1968, *Agra Univ. J. Res.* (*Sci.*), 16 (1): 17; Srivastava, 1979, *Proc. Sym. zool. Surv. India*: 53-57, figs. 3-5.

Spongovostox luteus; Burr, 1911, *Dt. ent. natn. Biblthk.*, 1911: 61, Burr, 1912, *Notes Leyden Mus.*, 34: 322; Burr, 1913, *Rec. Indian Mus.*, 8 (2): 140; Borelli, 1927 *Boll. Lab. Zool. gen. agr. Portici*, 20: 72; Srivastava, 1976, *Rec. zool. Surv. India, Occ. Pap.*, 2: 31.

Spongovostox aborum Burr, 1913, *Rec. Indian Mus.*, 8 (2): 140 (Nomotype ♂ and other ♂, ♀ in Zoological Survey of India, Calcutta); Brindle, 1975, *Ent. Basil.*, 1: 33. Syn. n.

Spongovostox wuermalii Brindle, 1975, *Ent. Basil*, 1: 33 (Holotype ♂, Allotype ♀ in Basil Museum and Paratypes 1 ♂, 1 ♀ in Manchester Mus.). Syn. n.

Material examined

1) 1 ♂ labelled as: Carin Ghecù, 1300-1400 m, L. Fea, Syntype ♂, *Spongophora lutea* Borm.; *Labia lutea* ♂, det. M. Burr, coll. nat. Mus. Wien - Naturhistorisches Museum Wien, Vienna, Austria (Fig. 10 and 11).

2) 1 ♂ labelled as: i) Carin Chebà, 900-1100 m, L. Fea, V-XII.88 – white label printed in black; ii) typus – printed in red; iii) *nitidipennis* Borm. – handwritten but not by Bormans; iv) *Spongophora nitidipennis* ♂, sp. n. – in Bormans handwriting; v) Museo Civico Genova – printed in black; genitalia mounted between two coverslips and pinned with the specimen (Fig. 12).

3) 1 ♂ labelled as: Burma, Palon (Pegù), L. Fea VIII.IX.84 (*Spongophora lutea* sp. nov., probably in Bormans handwriting); genitalia mounted on a celluloid slip with a coverslip by F. Capra (Fig. 13).

4) 1 ♀ labelled as: Carin Asciuii Chebà, 1200-1300 m, L. Fea, I.88. Type; *Spongophora lutea* sp. nov.

5) 1 ♂ labelled as: Carin Ghecù, 1300-1400 m, II-III.88; *Spongophora lutea* sp. nov., probably in Bormans handwriting.

Genitalia appears to have been taken out earlier by Burr who examined this material, now presumably lost.

Specimens listed under 2-5 belong to Museo Civico di Storia Naturale « Giacomo Doria », Genova, Italy.

6) 1 ♀ labelled as: Burma, Carin - Chebà, Kotype ♀, 396.2-427 m, L. Fea – Zoologisches Staatsinstitut und Zoologisches Museum, Hamburg, FRG.

7) Specimens determined by Burr as *Spongovostox aborum* sp. n. are labelled as: India, Arunachal Pradesh, Siang Dist., Rotung, 426 m, 7 ♂♂, 12 ♀♀, under bark 23,28.xii.1911; – Assam, Kobo, 122 m; 8 ♂♂, 9 ♀♀, 30.xi – 1,2 and 8.xii.1911, in rotten wood under bark (S.W. Kemp), Zoological Survey of India, Calcutta.

Burr's Nomotype (Reg. No. 2151/19) from Rotung is missing and only pin with other labels is present in the Zoological Survey of India. The other specimens listed above, though not labelled as 'Paratypes' may be considered as such since they are recorded by Burr (1913) alongwith the above Nomotype.

8) Specimens determined by Burr (1913) as *Spongovostox luteus* (Bormans) are labelled as: India, Arunachal Pradesh, Siang Dist., Rotung, 426 m, 1 ♀, 23.xii.1911, under wood; Assam, Upper Renging, 456 m, 1 ♂ (damaged); Kobo, 122 m, 4 ♂♂, 4 ♀♀, 3-8.xii.1911; Sadiya, 1 ♀, 26.xi.1911, under bark (S.W. Kemp).

Burma: Pam-pa-taung, 1 ♂, 797 m, under bark, -x.1910; Sansi, gorge, Chinese Frontier, 1829 – 2438 m, 1 ♀, -xii.1910 under bark (C.W. Beebe) – Zoological Survey of India, Calcutta.

9) Other unidentified material labelled as: India, West Bengal, Kurseong, Daw Hill, 1810 m, 3 ♂♂, 3 ♀♀, 27.xii.1970 (J.M. Julka coll.); Samsing, 1450 ft., 2 ♂♂, 1 ♀, 24.xii.1973; Khumani Forest, 3 ♂♂, 4 ♀♀, 22.xii.1973; Jhalung, 1000-1400 ft., 4 ♂♂, 1 ♀, 23.xii.1973; Kalimpong, Bong Basti, 3900 ft., 8 ♂♂, 3 ♀♀, 20 nymphs, 3.1.1974 (G.K. Srivastava and P.K. Maiti coll.); Tumthangkhola, Rangpo, 300 m, 6 ♂♂, 11 ♀♀, 3 nymphs, 28.xii.1975 (G.K. Srivastava coll.); Arunachal Pradesh, Lohit Dist., Tihun vill., 4160 ft., 4 ♂♂, 13.xii.1969 (J.M. Julka coll.); Kameng Dist., Chug, 7000 ft., 1 ♀, 16.iv.1961 (K.C. Jayaramakrishnan coll.); Elephant Flat, Bhaluk – Pung, 700 ft., 3 ♂♂, 4 ♀♀, 23.xii.1965 (S.K. Bhattacharyya coll.); Tirap Dist., Manabhum Tangapani Forest (Namsai), 100 m, 1 ♀, 7.iii.1969; Hayliaung Road (Tezu), 700-1200 m, 1 ♂, 1 ♀, 1 nymph, 12.iii.1969; Lohitpur Road (Tezu), 150-1500 m, 1 ♂, 13.iii.1969; Deopani (Roing), 1 ♀, 2.iii.1969 (S.K. Tandon coll.); Subansiri Dist., Pakha Camp, 150 m, 2 ♀♀, 26.x.1966 (S.K. Tandon

and G.S. Arora coll.); Sikkim, Chandmari Basti, 5000 ft., 1 ♀, 17.xii.1975 (G.K. Srivastava coll.) – all in the Zoological Survey of India, Calcutta.

Description. General colour dark brownish black to yellowish brown with varying shades on various body parts.

♂: Head smooth, transverse. Eyes shorter or longer than the post-ocular length. Antennae 15-segmented or more (generally apical segments broken off), 1st stout, gently expanded apically; 2nd transverse; 3rd long, slender; 4th slightly shorter than the preceding and 5th almost equal to 3rd; remaining long and slender, a few preapical ones thin and rod shaped. Pronotum parallel sided or gently widened posteriorly. Legs typical for the genus. Elytra smooth, provided with a row of thick setae, each arising from a small tubercle on the costal margin. Wings well developed or abbreviated. Abdomen smooth, lateral tubercles well developed, occasionally dilated in middle. Penultimate sternite broadly rounded posteriorly with slight emargination in middle. Ultimate tergite transverse, posteriorly with an undulate ridge, followed by a transverse depression, hind margin emarginate. Pygidium various, vertical or horizontal, narrowed posteriorly, postero-lateral angles with one or two teeth, posterior margin feebly sinuate, often provided in middle with a small tooth, sometimes at base also a small tooth present. Forceps horizontal or undulate, nearly straight or gently curved at apices, gently lamellate at base, afterwards finely crenulate or dentate.

♀: Agrees with male in most characters except that penultimate sternite obtuse posteriorly; ultimate tergite slightly narrowed posteriorly and devoid of any ridge; pygidium scarcely visible from above, in ventral aspect hind margin concave; forceps, contiguous, straight, tapering apically with tip gently incurved and crossing each other, inner margin finely crenulate, sometimes with a faint convexity above at middle close to internal margin or represented by a small ridge.

Measurements (in mm):	♂♂	♀♀
Length of body	6.0-10.1	4.5-9.7
Length of forceps	2.5-4.0	1.0-4.2

Remarks. This species shows great range of variation in body size, colour, relative length of eye and post-ocular area, elytra, wings, pygidium and forceps. Srivastava (1975, 1979, 1980) has discussed them in detail.

As result of reexamination of types, syntypes or paratypes of *Spongophora nitidipennis* Bormans, *Spongophora lutea* Bormans and *Spongovostox aborum* Burr, respectively, it is now established conclusively they are all conspecific.

Besides *Spongovostox wuermalii* Brindle, also falls with in the variational limits of this species and is treated as a synonym.

The lack of information on the intraspecific variations may perhaps be one of the reasons resulting into so many synonyms under this widely distributed species in the Oriental Region.

Irdex escheri (Borelli) (Figs. 16-22)

Spongovostox escheri Borelli, 1931, *Rev. suisse Zool.*, 38: 305, fig. 12 (♂, ♀; Valparai, Nadur - Estate, Anamalais, India); Srivastava, 1970, *Eos*, Madr., 45: 328, figs. 12-13 (♂, ♀; India, Tamil Nadu, Coimbatore Dist., Anamalai Hills, Cinchona, 3500 ft.).

Material examined. India: Tamil Nadu, Coimbatore Dist., Anamalai Hills, Cinchona, 3500 ft., 4 ♂♂ (2 ♂♂ with genitalia mounted between two coverslips and pinned with the respective specimens), 4 ♀♀, ...V.1968 (P.S. Nathan coll.).

Remarks. This species agrees with *I. nitidipennis* in most characters but differs in being slightly larger in size (length including forceps: ♂, 10.5-12.1 mm; ♀, 12.5-13.3 mm) and robust build and in the details of genital armature of males and pygidium and forceps of females.

Irdex cingalensis (Dohrn) (Figs. 23-33)

Forficula cingalensis Dohrn, 1865, *Stettin. ent. Ztg.*, 26: 89 (♀; Ceylon); Bormans and Krauss, 1900, *Das Tierreich*, 11: 128.

Apterygida cingalensis; Burr, 1901, *J. Bombay nat. Hist. Soc.*, 14: 332.

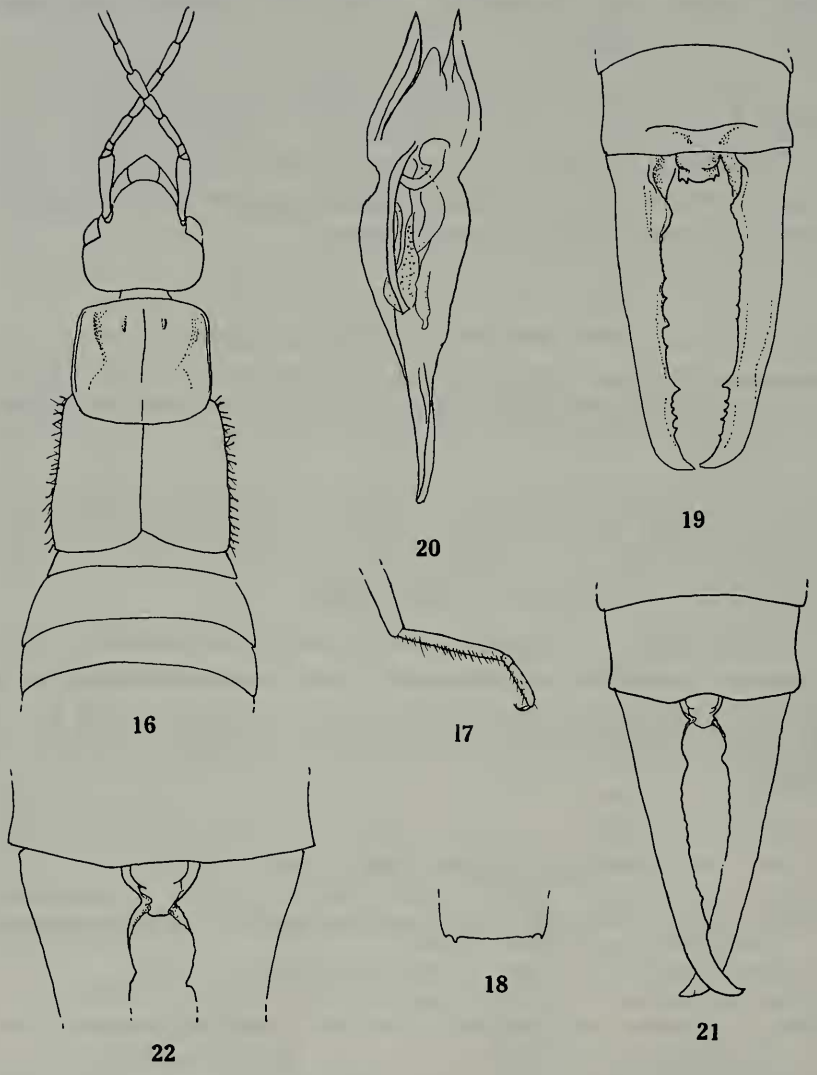
Sphingolabis cingalensis; Kirby, 1904, *Syn. Cat. Orth.*, 1: 46.

Forficula ? cingalensis; Burr, 1910, *Fauna Brit. India, Dermaptera*: 205; Burr, 1911, *J. Asiat. Soc. Beng.* (N.S.) 7: 779.

Chaetospania cingalensis; Burr, 1911, *Genera Insect.*, 122: 54.

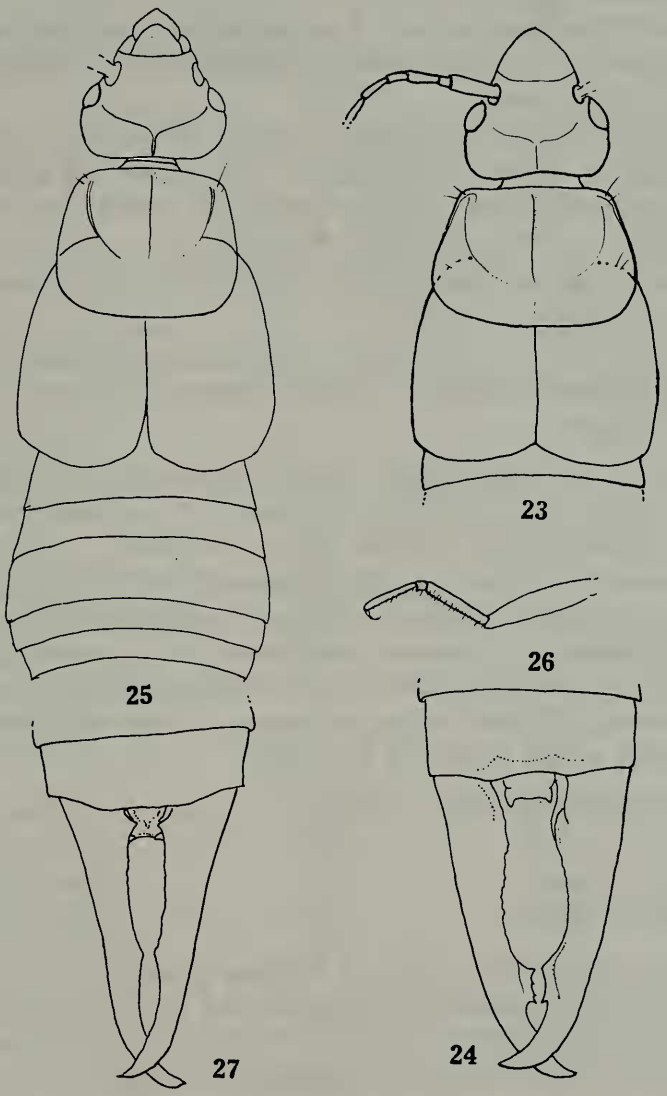
Spongovostox carli Borelli, 1931, *Rev. suisse Zool.*, 38: 303, figs. 10-11 (♂; Attakatti, Anamalais, India - Muséum d'Histoire Naturelle, Geneve); Srivastava, 1970, *Eos*, Madr., 45: 326, figs. 10-11 (♂, ♀; India, Anamalai Hills) *Syn. n.*

Material examined: i) India: Tamil Nadu, Coimbatore Dist., Anamalai Hills, Cinchona, 3500 ft., 3 ♂♂ (2 ♂♂ with genitalia



Figs. 16-22. - *Irdex escheri* Borelli, ♂: 16. Anterior portion of body showing a few abdominal segments; 17. Hind tarsi; 18. Apical portion of pygidium; 19. Ultimate tergite and forceps. 20. Genitalia. - ♀: 21. Ultimate tergite and forceps; 22. Basal portion of forceps with pygidium enlarged.

mounted between two coverslips and pinned with the respective specimens), 1 ♀, ...V.1968 (P.S. Nathan coll.).



Figs. 23-27. - *Irdex cingalensis* (Dohrn), ♂: 23. Anterior portion of body; 24. Ultimate tergite and forceps. - ♀: 25. Anterior portion of body with a few abdominal segments; 26. Hind tarsi; 27. Ultimate tergite and forceps.
(Figs. 23-24 drawn from a ♂ from Ceylon, det. by Dohrn and figs. 25-27 are from « Type ♀ » of *Forficula cingalensis* Dohrn).

ii) 1 ♀ labelled as i) Ceylon, Nietn. – yellow label; ii) *Forficula cingalensis* Dohrn – handwritten in ink; iii) Syn-Type; iv) Zool. Mus. Berlin – painted label.

Dohrn (1864) mentions of a ♀ in the original description of *Forficula cingalensis*. Therefore the above specimen may be treated as the 'Holotype' of the species.

iii) 1 ♂ labelled as: i) Ceylon, Nietner; ii) *Forficula cingalensis* Dohrn, Ceylon, Neitner – Handwritten with pencil; iii) *Hyalolabis* Zacher, *Cingalensis* Dohrn – handwritten in ink probably by Zacher; iv) Syn-Type; v) Zool. Mus. Berlin – printed.

Although this specimen is labelled as 'Syn-Type' but it represents merely a 'Topotype'.

Diagnostic characters. General colour shining, yellowish brown, antennae and legs clear yellow. Abdomen and forceps somewhat dark brown.

Head smooth, sutures faintly marked, frons convex, eyes distinctly longer than the post-ocular area. Antennae with segments long and slender, especially apical ones thin and rod shaped.

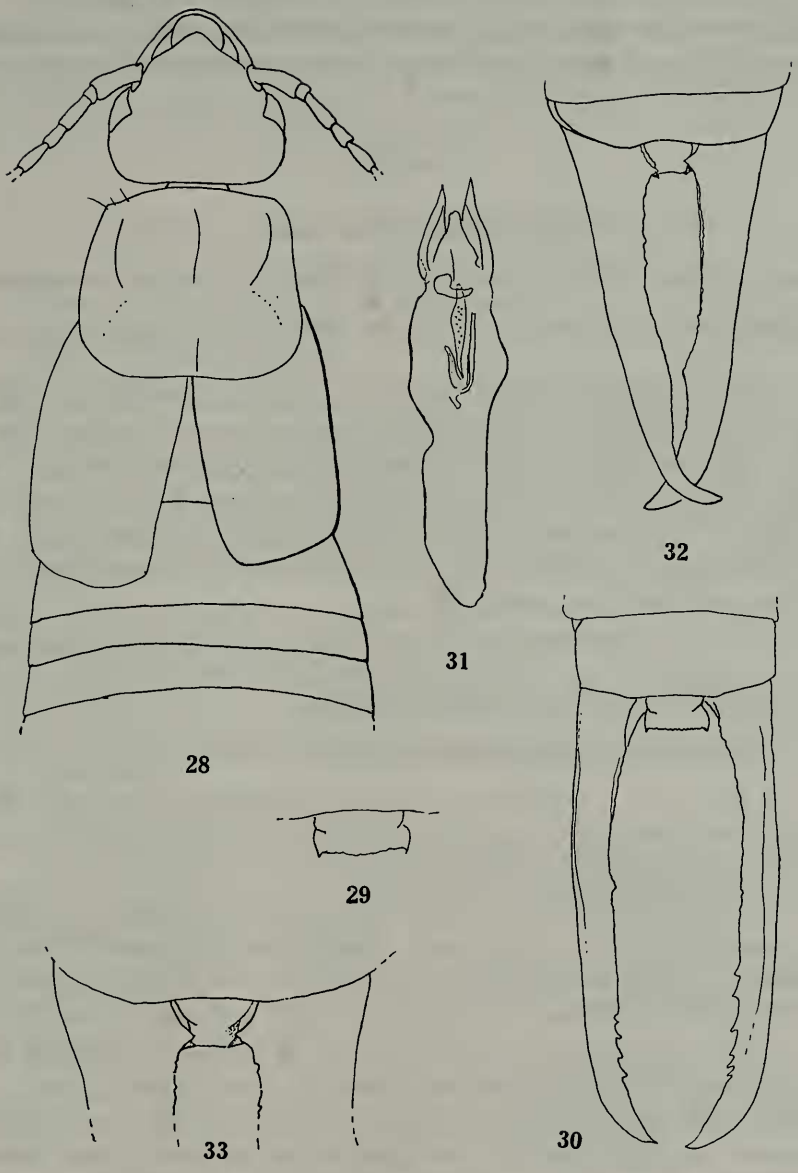
Pronotum and elytra smooth, impunctate (both translucent and structures beneath them can be seen against artificial light), latter with costal fold distinct but chitinous setae absent. Hind metatarsus long and slender, 5 times longer than broad. Abdomen obscurely punctate, sides pubescent. Ultimate tergite and forceps of male and female and male genitalia as seen in figs. 24, 27, 30-33.

Measurements (in mm):	Holotype	Ceylon	Others	
	♂	♀	♂♂	♀
Length of body	8.2	6.4	6.5-8.7	6.4
Length of forceps	3.2	3.5	3.3-4.6	2.7

Remarks. Dohrn's type of *Forficula cingalensis* is a ♀ and it agrees so well with females of *Spongovostox carli* Borelli, from Anamalai Hills, India found alongwith the males that latter is placed as synonym.

It will be noticed from the accompanying diagrams that forceps and pygidium of ♂ from Ceylon are slightly different from that of Anamalai Hills. Perhaps this may be due to individual variations.

By all accounts it belong to *Irdex* Burr but strangly enough setae along the costal margin are absent.



Figs. 28-33. - *Irdex cingalensis* (Dohrn), ♂: 28. Anterior portion of body with a few abdominal segments; 29. Pygidium enlarged; 30. Ultimate tergite and forceps; 31. Genitalia. - ♀: 32. Ultimate tergite and forceps; 33. Basal portion of forceps with pygidium enlarged. (All figs. from specimens from India and det. by Srivastava).

It forms a natural group alongwith preceding two species i.e. *I. nitidipennis* (Bormans) and *I. escheri* (Borelli) but differs from both by the shape of male genitalia and female pygidium and forceps.

LABIINAE

Apovostox Hebard stat. n.

Apovostox Hebard, 1927. *Proc. Acad. Nat. Sci. Philad.*, 79: 29, (Type: *Labia pygidiata* Dubrony).

Argusina Hebard, 1927, *Proc. Acad. Nat. Sci. Philad.*, 79: 38 (Type: *Argusina lita* Hebard).

Diagnostic characters. ♂: Size medium to large; strongly pubescent on whole body; eyes prominent, usually longer than the post ocular area; antennal segment long and slender; 3rd about as long as 5th; elytra and wings well developed. Pygidium distinct, forming a flat, horizontal plate, variously shaped. Forceps remote at base, elongated, internally demarcated into dorsal and ventral borders, armed with large and small teeth.

♀: Agree with males in most character except that eyes sometime less prominent; pygidium short but distinct, convex above at base, subvertical; forceps short, armed internally.

Type species: *Labia pygidiata* Dubrony, 1879.

Remarks. Srivastava (1975a) synonymised *Apovostox* Hebard under *Irdex* Burr since both were based on similar characters on the available information at that time.

Now the identify of the genus *Irdex* Burr is redefined as a result of reexamination of its type-species *Spongophora nitidipennis* Bormans. Besides it is also now clear that type species of *Apovostox* Hebard is not conspecific with that of *Irdex*. For this reason former is resurrected.

There appears to be much confusion in literature regarding the true identity of *Spongophora nitidipennis* Bormans, which is now resolved. Although Burr (1910) examined the type of above species but somehow he placed his own very distinct species *Chaetospania jupiter* from Sarawak, under it as a synonym. Since Burr's (1910) figure for *Irdex nitidipennis* was based on a ♂ from Sarawak, most probably on a syntypes of *C. jupiter*, which might have lead subsequent authors to follow Burr's interpretation of species.

Chaeatospania jupiter Burr (1900) is resurrected here since it represents a distinct valid species in having strongly pubescent body and the pygidium in males represented as a rectilinear plate. All references pertaining to *Irdex nitidipennis* (Bormans) subsequent to Burr (1910) are perhaps referrable under this species.

Apovostox jupiter (Burr) comb. n. (Figs. 34-37)

Spongiphora nitidipennis (nec Bormans, 1894); Bormans, 1899, *Ann. Mus. civ. St. nat. Genova*, (2) 20 (40): 454 (Part of the material).

Chaetospania jupiter Burr, 1900, *Ann. Mag. nat. Hist.*, 7 (4): 94 (2 ♂♂, 2 ♀♀; Malaysia: Borneo, Sarawak; Penrissen).

Irdex nitidipennis (nec Bormans); Burr, 1911, *Genera Insect.*, 122: 53; Burr, 1911, *Dt. ent. natn. Biblthk*, 1911; 59; Burr, 1912, *Annln Naturh. Mus. Wien*, 26: 27; Burr, 1912, *Notes Leyden Mus.*, 34: 227; Burr, 1913, *J. Asiat. Soc. Beng.* (N.S.), 9: 141; Burr, 1914, *Rec. Indian Mus.*, 10: 290; Burr, 1916, *J.R. micr. Soc.*, 1916: 4, pl. 1, fig. 2 (♂ genitalia); Borelli, 1926, *Treubia*, 8: 260; Borelli, 1927, *Suppl. ent.*, 15: 70; Borelli, 1932, *Bull. Raffles Mus.*, 7: 85; Borelli, 1932, *J. Fed. Malay. St. Mus.*, 17 (1): 185, 195; Boeseman, 1954, *Zool. Verh., Leiden*, 21: 64; Ramamurthi, 1968, *Zool. Anz.*, 181 (1 & 2): 132; Brindle, 1971, *Ent. Ts.*, 92 (1-2): 19; Srivastava, 1976, *Pacif. Insects*, 17 (1): 110; Srivastava, 1978, *Eos*, Madr., 52: 271.

Irdex nitidipennis (Bormans) var. *lamniformis*, Borelli, 1932, *Bull. Raffles Mus.*, 7: 85.

Irdex nitidipennis (Bormans) *linguiformis* Borelli, 1932, *Bull. Raffles Mus.*, 7: 85; Borelli, 1932, *J. Fed. Malay. St. Mus.*, 17 (1): 185.

Irdex nitidipennis (Bormans) *brachypyge* Boeseman, 1954, *Zool. Verh. Leiden*, 21: 65, fig. 17C.

Chaetospania baliensis Günther, 1934, *Verh. Natur. Suisse Zool.*, 4: 513, fig. 11 (♀; North Bali).

Material examined

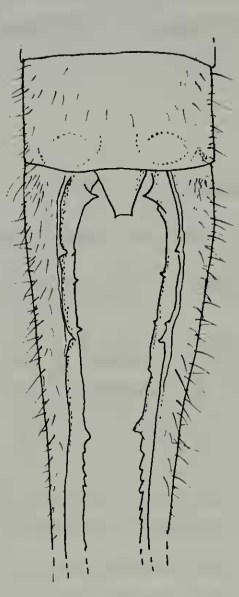
1) 1 ♂ labelled as: i) Sumatra Si-Rambé, XII.90-III.91, E. Modigliani; ii) ♂, 115 sp. nova – handwritten; iii) ? handwritten; iv) Museo Civico di Genova – printed.

2) 1 ♀ labelled as: i) Sumatra Si-Rambé, XII.90-III.91, E. Modigliani; ii) ♀, III sp. nov. – handwritten; iii) Typus – printed in red; iv) Museo Civico di Genova – printed.

3) 1 ♂ labelled as: i) Sumatra Si-Rambé, XII.90-III.91, E. Modigliani; ii) Museo Civico di Genova – printed; genitalia mounted between two coverslips and pinned with the specimen.

According to invoice of specimens these were determined as *Spongophora* (?) sp.

All the three specimens are conspecific and are referred to this species.



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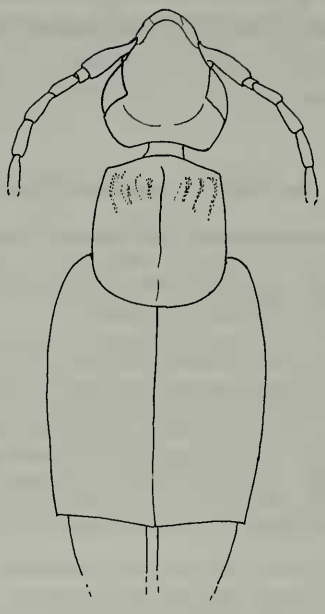

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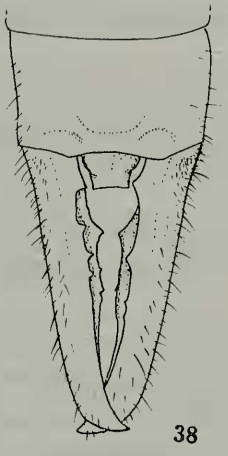

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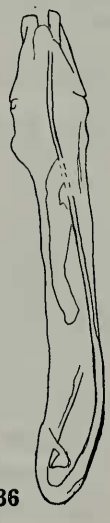

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Figs. 34-38. - *Apovostox jupiter* Burr, ♂: 34. Anterior portion of body; 35. Ultimate tergite and a portion of forceps; 36. Genitalia, 37. Paramere enlarged. - *Apovostox* sp., ♀: 38. Ultimate tergite and forceps.

This species has been discussed in detail (Srivastava, 1978) under the name *Irdex nitidipennis*. However, in brief, diagnostic characters are given:

♂: General colour dull brown to brownish black; pronotum lighter in colour laterally; tarsi yellowish; pygidium and forceps testaceous brown. Body covered with short and long, dense pubescence.

Head slightly longer than broad, somewhat depressed, sutures obsolete, hind margin emarginate. Eyes prominent, longer than the post-ocular area. Antennae 15-17 segmented, segments long and cylindrical. Pronotum slightly longer than broad, sides parallel, hind margin rounded, median sulcus faint. Elytra and wings well developed. Legs normal. Abdomen weakly convex, parallel sided. Penultimate sternite ample, rounded posteriorly with slight emargination in middle. Ultimate tergite transverse, posteriorly trisinuate. Pygidium forming a rectilinear plate, hind margin variable, often with minute teeth laterally. Forceps long trigonal, tapering backwards, tip gently incurved, meeting or crossing, inner margin often at base with a flat triangular tooth, afterwards crenulate, dorsally and ventrally with one or two larger teeth, but their position variable. Genitalia (Fig. 36, 37).

♀: Agrees with ♂ in most characters except ultimate tergite narrowed posteriorly; pygidium weakly projecting, declivient, hind margin sinuate, postero-lateral angles projecting; forceps short, gently curved in middle.

Measurements (in mm):	♂♂	♀♀
Length of body	8.0-12.5	9.5-12.0
Length of forceps	3.9- 7.2	3.5- 5.6

Distribution. Widely distributed in the Oriental Region.

Remarks. The shape of pygidium and forceps is extremely variable.

Apovostox sp. (Fig. 38)

Material examined. 1 ♀ labelled as: i) Sumatra Si-Rambé, XII.90-III.91, E. Modigliani, ii) Museo Civico di Genova; Det. by Bormans as *Spongiphora nitidipennis* Bormans.

Remarks. This specimen differs from *Apovostox jupiter* (Burr) by its small size (body 9.4 mm; forceps 2 mm); uniform yellowish brown colouration and comparatively less slender legs.

In the absence of male it is not possible to determine it up to the species level.

Chaetospania gestroi (Dubrony) (Figs. 39-40)

Platylabia gestroi Dubrony, 1879, *Ann. Mus. civ. St. nat. Genova*, 14: 372 (2 ♀♀ (not ♂♂), 1 nymph, Nouvelle Guinée).

Material examined

1) 1 ♀ labelled as: i) Nuova Guinea, Fly River, L.M. D'Albertis, 1876-77; ii) small label bearing handwritten letter « K »; iii) Typus – printed in red; iv) *Gestroi* Dubr. – handwritten but not by Dubrony (= Bormans); v) *Platylabia gestroi* (Dubr.) ♂ – handwritten but not by Bormans; vi) Museo Civico di Genova (Figs. 39-40).

2) 1 ♀ bearing same number of labels as for item 1 and with same information.

3) 1 nymph labelled as: i) Nuova Guinea, Fly River, L.M. D'Albertis 1876-1877; ii) small label bearing handwritten letter « K »; iii) *Platylabia gestroi* (Dubro.) (nymph) – handwritten, not by Bormans; iv) Museo Civico di Genova.

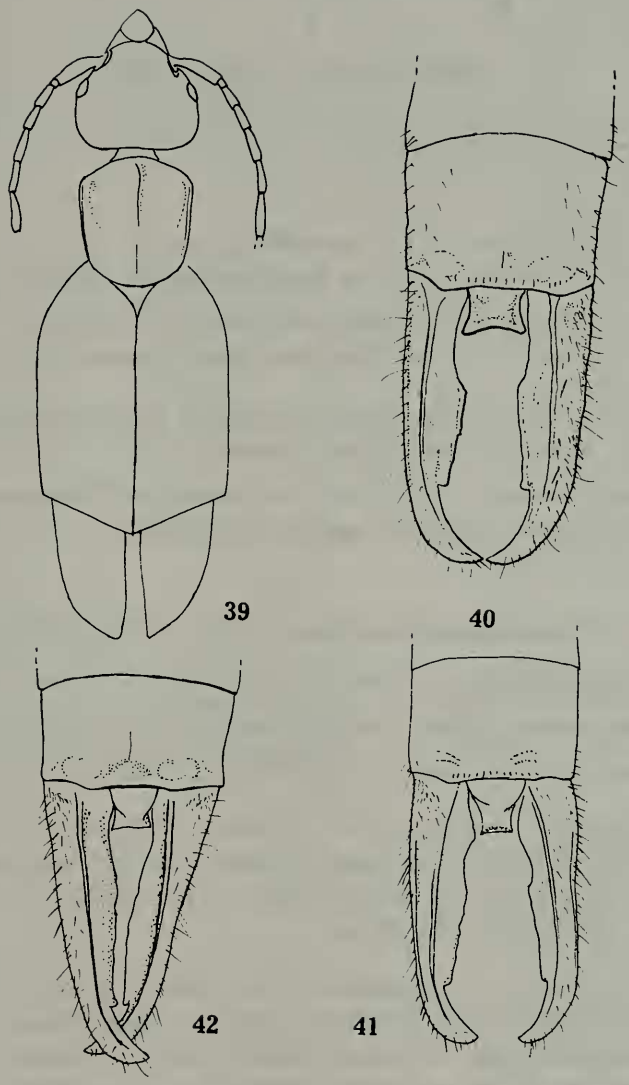
Remarks. Dubrony (1879) has figured dorsal view of full specimen and the ultimate tergite and forceps of male and the ultimate tergite and forceps of female.

In fact specimens mentioned as males are females and the figure referred to as female is from the nymph.

The material referred to above may be treated as the Syntypes and agrees well with the original description. Some additional information is provided which will be useful in the determination of the species:

« Body strongly depressed and pubescent, long pubescence present on various body part especially on sides of abdominal segments and forceps. Eyes shorter than the postocular area. Legs short, hind tarsi with 1st segment only slightly longer than the 3rd. Hind margin of tergites with a row of compressed tubercles ».

This species comes close to *Chaetospania nigriceps* (Kirby) also



Figs. 39-42. - *Chaetospania gestroi* (Dubrony), ♀: 39. Anterior portion of body; 40. Ultimate tergite and forceps. - *Chaetospania* sp., ♀: 41-42. Ultimate tergite and forceps.
(Figs. 39-40 drawn from the « Syntype ♀ » of *Platylabia gestroi* Dubrony).

known from New Guinea but differs from the latter by the shape of pygidium and forceps in females.

Chaetospania sp. (Figs. 41-42)

Platylabia gestroi (nec Dubrony), Bormans, 1888, *Ann. Mus. civ. St. nat. Genova*, (2) 6 (21): 436 (2 ♀♀ Burma).

Material examined

1) 1 ♀ labelled as: i) Tenasserim Thagatà, Fea, Apr. 1887; ii) Museo Civico di Genova; det. as *Platylabia gestroi* Dubrony (Fig. 41).

2) 1 ♀ labelled as: i) Bhamò, Birmania, Fea, VIII.1885; ii) Museo Civico di Genova; det. as *Platylabia gestroi* Dubrony (Fig. 42).

Remarks. In the absence of males it is not possible to assigne the above material to any known species.

These, however, differ from the females of *Chaetospania gestroi* (Dubrony) by the shape of pygidium and forceps.

Chaetospania feuerborni Günther (Figs. 43-48)

Spongiphora nitidipennis (nec Bormans, 1894); Bormans, 1899, *Ann. Mus. civ. St. nat. Genova*, (2) 20 (40): 457 (Part of the material).

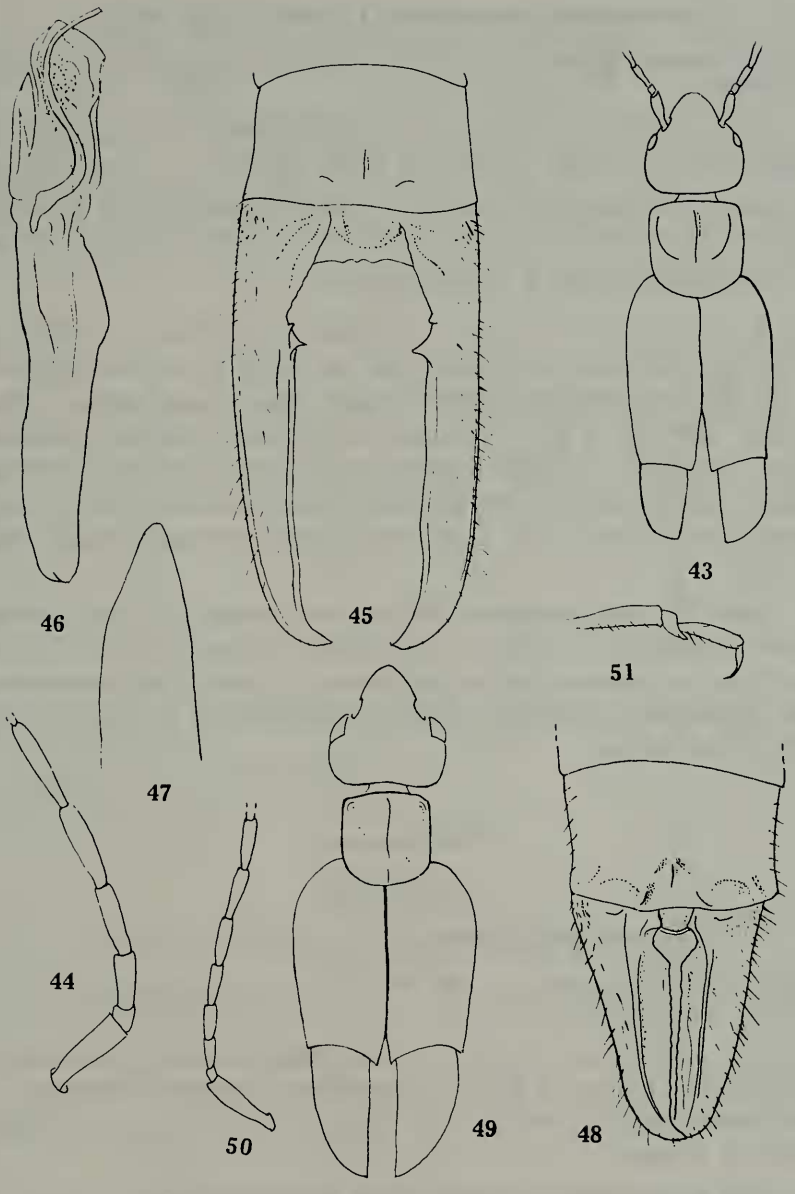
Chaetospania feuerborni Günther, 1933, *Arch. Hydrobiol.*, 12 Suppl.: 512, fig. 10 (1 ♂; Quellrnnsal am Ngebel - See, Willisgebirge, Mitteljava, an Colocasiastanden); Günther, 1933, *Sitz. Ber. Ges. naturf. Fr. Berlin*: 474, figs 2 and 3.

Material examined. Sumatra: Si-Rambé, 3 ♂♂ (one specimen with ♂ genitalia mounted between two coverslips and pinned with the specimen), 1 ♀, XII.90-III.91, E. Modigliani; det. by Bormans as *Spongiphora nitidipennis*.

Remarks. On comparision with GÜNTHER's (1933) description and his subsequent notes (1933a) the above material appears to be correctly assigned. Eyes are much shorter than the postocular length. Antennae may be 11-segmented or more, since generally apical ones tend to break off. Segments are mostly long and slender; 3rd and 4th almost equal or latter slightly longer.

Inner armature of forceps in males show some slight variations.

Body covered with fine pubescence but on forceps it is longer.



Figs. 43-51. - *Chaetospania feuerborni* Günther, ♂: 43. Anterior portion of body; 44. A few antennal segments; 45. Ultimate tergite and forceps; 46. Genitalia; 47. Apical portion of paramere enlarged. - ♀: 48. Ultimate tergite and forceps. - *Chaetospania borneensis* (Dubrony) ♂: 49. Anterior portion of body; 50. A few antennal segments; 51. Hind tarsi.
(Figs. 49-51 from « Holotype ♂ » of *Forficula borneensis* Dubrony).

Chaetospania borneensis (Dubrony) (Figs. 49-51)

Forficula borneensis Dubrony, 1879, *Ann. Mus. civ. St. nat. Genova*, 14: 381, figs. (♂; Sarawak).

Material examined. 1♂ labelled as: i) Borneo Sarawak, 1865-66, coll. G. Doria – printed in black; ii) Typus – printed in red; iii) *Forficula Borneensis* ♂ (Dubrony) – handwritten but not by Bormans; iv) addome perduto da Burr – handwritten; v) Museo Civico di Genova.

It is the Holotype ♂ of the species.

Remarks. It has been adequately described by Dubrony (1879) but following information will be useful in the determination of the species. Pronotum slightly longer than broad, median sulcus distinct. Eyes are a little prominent but shorter than the postocular length. Antennae with basal segment almost equal to distance between antennal bases; 3rd and 4th subequal, latter somewhat shorter. Legs typical for the genus, hind tarsi with 1st segment slightly longer than the 3rd.

Since the hind portion of abdomen is missing it is not possible to comment further. However, on the basis of diagrams given by Dubrony (l.c.) of ultimate tergite and forceps it shows close resemblance with *Chaetospania feuerborni* Günther, but differs by the shape of pygidium and forceps.

Chelisochidae

chelisochinae

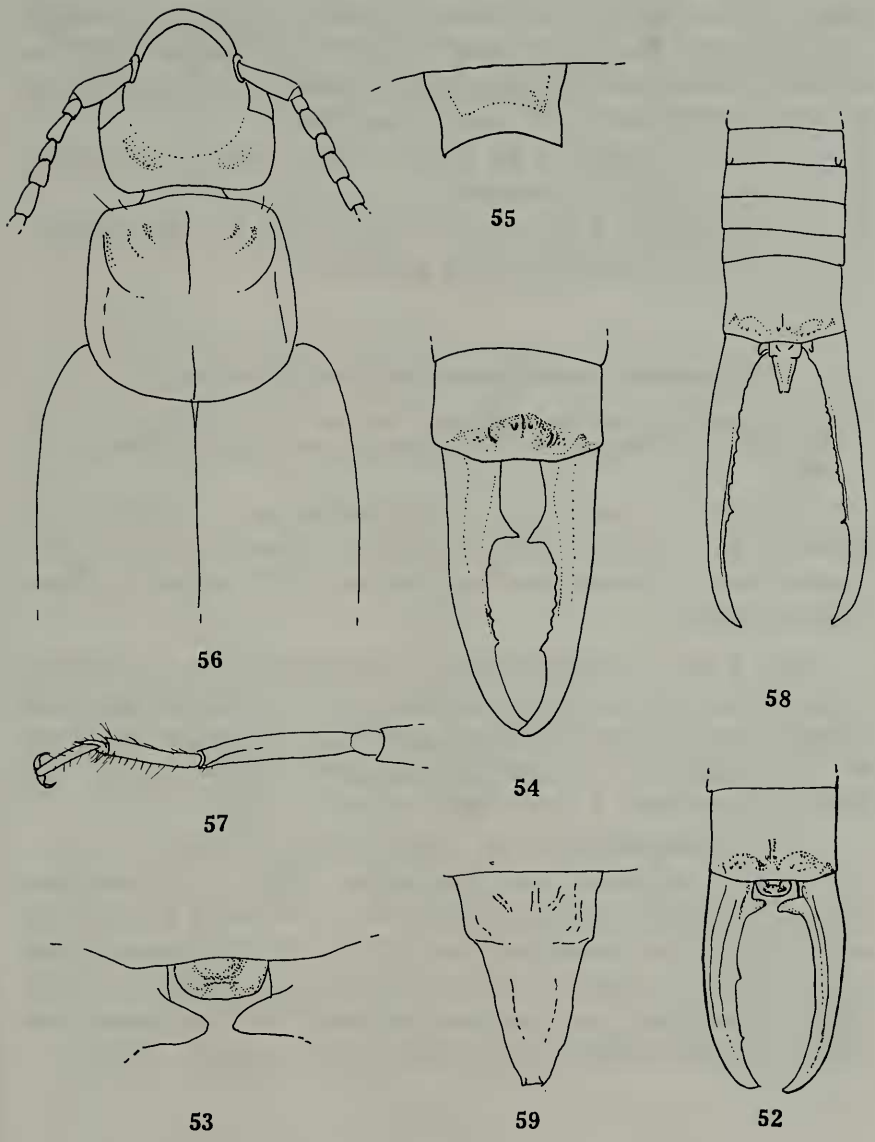
Exypnus pulchripennis (Bormans) (Figs. 52-53)

Chelisoches pulchripennis Bormans, 1883, *Ann. Soc., ent. Belg.*, 27: 78, fig. 15 (2♂♂, 1♀; Indes Orientales).

Material examined. 1♂ labelled as: i) Carin Ghecù, 1300-1400 m, L. Fea, V.88; ii) *Chelisoches glaucopterus* Bormans ♂ – handwritten label by Bormans; iii) Typus – printed in red; iv) Museo Civico di Genova.

This specimen was referred to by Bormans (1899).

Remarks. The above specimen agrees well the original description of the species (Bormans, 1883). The only difference noted is that basal internal tooth has a single point.



Figs. 52-59. - *Exypnus pulchripennis* (Bormans) ♂: 52. Ultimate tergite and forceps; 53. Base of forceps and pygidium enlarged. - *Adiathetus glaucopterus* (Bormans) ♂: 54. Ultimate tergite and forceps; 55. Pygidium enlarged. - ♀: 56. Anterior portion of body; 57. Hind tarsi; 58. Hind portion of body along with a few abdominal segments; 59. Pygidium enlarged.
(Figs. 56-59 from the « Type ♀ » of *Chelisoches glaucopterus* Bormans).

It has been possible to examine through the courtesy of Dr. G. Demoulin, Institut Royal des Sciences Naturelles de Belgique, Bruxelles, 3 ♂♂, 3 ♀♀ from Burma, det. and referred to by BORMANS (1894) as *Chelisoches pulchripennis* Bormans which appear to be conspecific with the ♂ mentioned under the material examined.

The slight variation in the shape of basal internal tooth appears to be a case of individual variation.

The ♀ pygidium is figured here (Fig. 53) which is quite different from that of *Adiathetus glaucopterus* Bormans.

Adiathetus glaucopterus (Bormans) (Figs. 54-59)

Chelisoches glaucopterus Bormans, 1888, *Ann. Mus. civ. St. nat. Genova*, (2) 6 (21): 441, figs. (♀; Montagnes des Catcin (Birmania) and 1 nymph, Meetan (Tenasserim).

Material examined. 1 ♀ labelled as: i) Catcin Cauri, Birmania, Fea, Ag. Nov. 1886; ii) Typus – printed in red; iii) *glaucopterus* Borm. – handwritten label but not by Bormans; iv) Museo Civico di Genova.

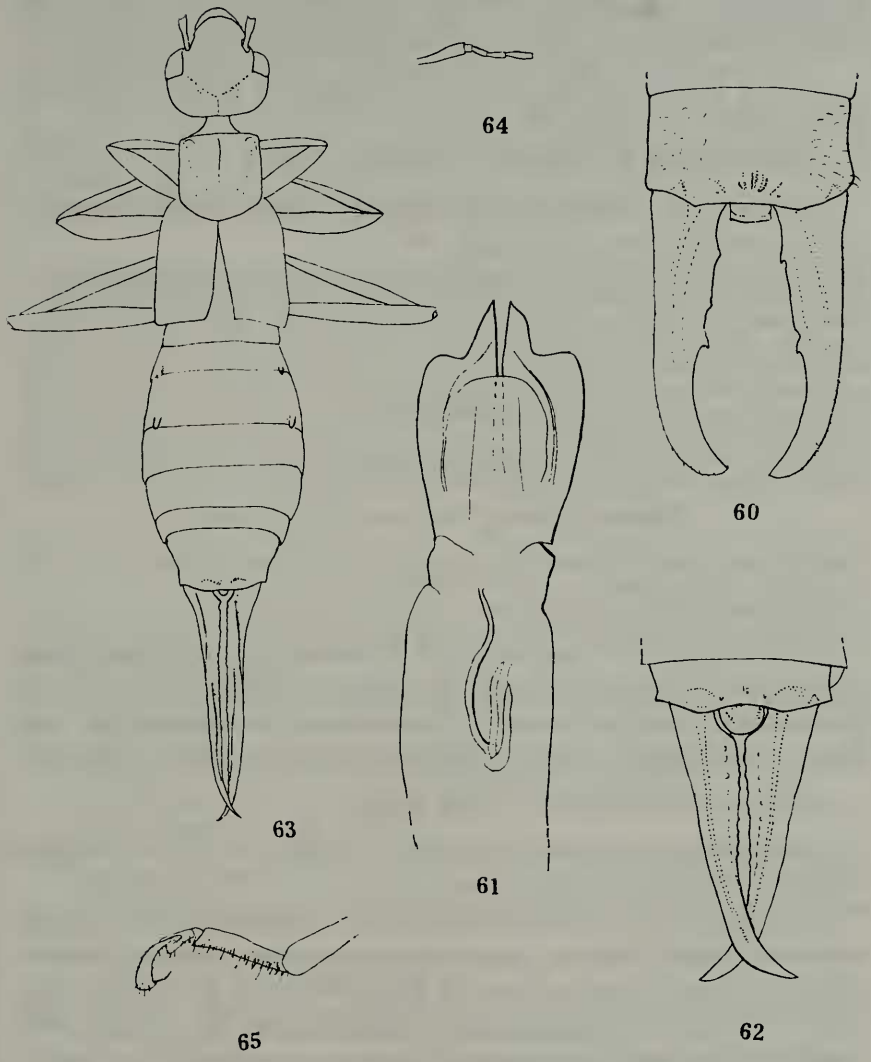
Remarks. Although there is no handwritten label by Bormans it may be treated as the 'Type' of species. It is one of the two specimens referred to by BORMANS (1888) and agrees with the original description and the illustrations. The other specimen stated to be a ♂ nymph from Meetan (Tenasserim) is not available to me for study.

In the Zoological Survey of India collections 4 ♂♂ and 5 ♀♀ from India, W.B., Darjeeling Dist., Sombarihat, 2 km N. of Gorubthan, 1200 ft., 17.XII.1973, det. and coll. by G.K. Srivastava are referrable to this species. The females agree with "Type ♀". The ultimate tergite and forceps from associated males are figured here. Pygidium is vertical, slightly longer than broad, narrowed posteriorly and hind margin concave with postero-lateral angle produced into a triangular point.

Proreus weisi (Burr) (Figs. 60-62)

Mecomera weisi Burr, 1904, *Trans. R. ent. Soc. Lond.*, 1904: 302 (1 ♂; Tonkin, Central « environs de Tuyen, Quan »).

Proreus weisi: Burr, 1911, *Genera, Insect.*, 122: 64; Srivastava (in press), *Rec. zool. Surv. India* (♂, ♀; India Arunachal Pradesh).



Figs. 60-65. - *Proreus weisi* (Burr), ♂: 60. Ultimate tergite and forceps; 61. Genitalia - ♀: 62. Ultimate tergite and forceps. - *Obelura dubia* (Bormans), ♀: 63. Dorsal view; 64. A few basal antennal segments; 65. Hind tarsi.
(Figs. 63-65 are from the « Type ♀ » of *Opisthocosmia dubia* Bormans).

Material examined

1) 1 ♂ labelled as: i) Carin Chebà, 900-1100 m, L. Fea, V-XII-88; ii) *Chelisoches ritsemae* Borm. ♂; iii) Museo Civico di Genova; genitalia mounted between two coverslips and pinned with the specimen.

2) 1 ♀ bearing similar labels and information as above except on the det. label, mentioned as '♀'.

This material is recorded by Bormans (1894).

Remarks. The above material is conspecific with the specimens recorded by Srivastava (in press).

The ultimate tergite and forceps and genitalia of male are figured here.

Forficulidae

opisthocosmiinae

Obelura dubia (Bormans) (Figs. 63-65)

Opisthocosmia ? *dubia* Bormans, 1894, *Ann. Mus. civ. St. nat. Genova*, (2) 14 (24): 399 (♀; Carin Ghecù).
Obelura dubia; Brindle, 1978, *Entomol. Rec. J. Var.*, 90: 315.

Material examined. 1 ♀ labelled as: i) Carin Ghecù, 1300-1400 m, L. Fea, II-III.88; ii) Typus – printed in red; iii) *Opisthocosmia* ? *dubia* sp. nova ♀ – handwritten by Bormans; iv) *dubia* Borm. – handwritten, but not by Bormans; v) Museo Civico di Genova.

This is the 'Holotype ♀' of the species.

Remarks. Although species is described in detail following additional information will be useful.

Antennae of both sides remaining with 5 segments only, 1st stout, narrowed basally, slightly longer than the distance between antennal bases; 2nd short, about as long as broad; 3rd and 4th almost equal, long and slender; 5th slightly longer. Elytra coriaceous, smooth, costal margin without any ridge, posteriorly truncate, meeting along the median line. Legs long and slender, hind tarsi with 1st segment slightly longer than the 3rd; 2nd moderately lobed. Pygidium short, obtuse. Forceps contiguous, internal margin finely crenulate.

Burr (1907) erected the genus *Emboros*, with this species as the type but he characterized the genus on the specimens from Diego Swarz

presuming both as conspecific. BRINDLE (1978) proposed a new name *Emborose madagascarensis* for Burr's (l.c.) material and proposed it as replacement, type-species redefining genus *Emboros* Burr. Subsequently he (1978a) placed *Opisthocosmia dubia* Bormans under *Obelura* Burr (= *Syntonus* Burr) since it lacked ridge on the costal margin.

In the absence of a male it is not possible to comment any further on the taxonomic position of the species. However, the 'Holotype ♀' is figured here with a hope that some future worker may be able to correlate with the illustration, the opposite sex of the species.

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SUMMARY

The present paper deals with 16 species, including two determined up to generic level. Of these 13 and one species are based on Bormans material exclusively and partially, respectively. Remaining species are based on the material determined by others.

Altogether, « Types » of following five species are dealt with: *Spongophora nitidipennis*, *Spongophora lutea*, *Platylabia gestroi*, *Forficula borneensis*, *Chelisoches glaucopterus* and *Opisthocosmia dubia*. Besides « Type » of *Forficula cingalensis* Dohrn, is also discussed.

A key to various subfamilies of Labiidae is provided on the basis of hind tarsal segments in combination with other characters. Two new subfamilies *viz.*, Homotaginae and Irdexinae are erected.

The genus *Irdex* Burr, is redefined and *Apovostox* Hebard is resurrected. It is proposed to synnnymise *Spongophora lutea* Bormans, *Spongovostox aborum* Burr and *S. wuermalii* Brindle under *Spongophora nitidipennis*; *Spongovostox carli* Borelli under *Forficula cingalensis* Dohrn. Besides *Chaetospania feuerborni* Günther, *Chaetospania jupiter* Burr and *Platylabia gestroi* Bormans are treated as valid species.

Most of the species are discussed with illustrations.

RIASSUNTO

L'Autore tratta la posizione sistematica di 16 specie di Dermatteri asiatici ed austromalesi, basandosi soprattutto sul materiale determinato a suo tempo da DE BORMANS.

Sono riesaminati in particolare i tipi di *Spongophora nitidipennis*, *Spongophora lutea*, *Platylabia gestroi*, *Forficula borneensis*, *Chelisoches glaucopterus* e *Opisthocosmia dubia*; è anche rivisto il tipo di *Forficula cingalensis* Dohrn.

Viene inoltre fornita una nuova tabella delle sottofamiglie dei Labiidae e sono istituite due nuove sottofamiglie (Homotaginae e Irdexinae).

Il genere *Irdex* è ridefinito e il genere *Apovostox* è riconsiderato valido.

Sono riportate le seguenti sinonimie:

Spongophora nitidipennis Borm., 1894 = *S. lutea* Borm., 1894 = *Spongovostox aborum* Burr, 1913 = *S. wuermalii* Brindle, 1975.

Forficula cingalensis Dohrn., 1865 = *Spongovostox carli* Borelli.

Sono infine ritenute specie valide: *Chaetospania feuerborni* Günther, *Chaetospania jupiter* Burr, *Platylabia gestroi* Bormans.

La maggior parte delle specie è figurata con disegni originali.